MicroCoat® System

Operating Manual

MC800 Series

MC785M #7008020,
MC785M-WF #7008013
Spray Valves

IMPORTANT!
Save this Sheet.

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Nordson EFD

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Introduction

The MicroCoat System provides precise lubrication control for metal stamping operations.

The MC800 controller, MC785M series spray valves and the MicroCoat tank reservoirs are all produced to exacting specifications and thoroughly tested prior to shipment.

The MC785M series valves are designed for long life without maintenance when clean lubricant is used.

To obtain the maximum performance from your MicroCoat System, please read through these instructions carefully.

Our goal is to build not only the finest equipment but also to build long-term customer relationships founded on superb quality, service, value and trust.

Safety

Introduction

Read and follow these safety instructions. Task- and equipment- specific warnings, cautions, and instructions are included in equipment documentation where appropriate.

Qualified Personnel

Equipment owners are responsible for making sure that Nordson EFD equipment is installed, operated, and serviced by qualified personnel. Qualified personnel are those employees or contractors who are trained to safely perform their assigned tasks. They are familiar with all relevant safety rules and regulations and are physically capable of performing their assigned tasks.

Intended Use

Use of EFD equipment in ways other than those described in the documentation supplied with the equipment may result in injury to persons or damage to property.

Some examples of unintended use of equipment include:

- using incompatible materials
- making unauthorized modifications
- removing or bypassing safety guards or interlocks
- using incompatible or damaged parts
- using unapproved auxiliary equipment
- operating equipment in excess of maximum ratings

Regulations and Approvals

Make sure all equipment is rated and approved for the environment in which it is used. Any approvals obtained for EFD equipment will be voided if instructions for installation, operation, and service are not followed.

Personal Safety

To prevent injury, follow these instructions.

- Do not operate or service equipment unless you are qualified.
- Do not operate equipment unless safety guards, doors, or covers are intact and automatic interlocks are operating properly. Do not bypass or disarm any safety devices.
- Keep clear of moving equipment. Before adjusting or servicing moving equipment, shut off the power supply and wait until the equipment comes to a complete stop. Lock out power and secure the equipment to prevent unexpected movement.
- Relieve (bleed off) hydraulic and pneumatic pressure before adjusting or servicing pressurized systems or components. Disconnect, lock out, and tag switches before servicing electrical equipment.
- Obtain and read Material Safety Data Sheets (MSDS) for all materials used. Follow the manufacturer's instructions for safe handling and use of materials, and use recommended personal protection devices.
- Make sure the spray area is adequately ventilated.
- To prevent injury, be aware of less-obvious dangers in the workplace that often cannot be completely eliminated, such as hot surfaces, sharp edges, energized electrical circuits, and moving parts that cannot be enclosed or otherwise guarded for practical reasons.

Fire Safety

To avoid a fire or explosion, follow these instructions.

- Shut down all equipment immediately if you notice static sparking or arcing. Do not restart the equipment until the cause has been identified and corrected.
- Do not smoke, weld, grind, or use open flames where flammable materials are being used or stored.
- Do not heat materials to temperatures above those recommended by the manufacturer. Make sure heat monitoring and limiting devices are working properly.
- Provide adequate ventilation to prevent dangerous concentrations of volatile particles or vapors. Refer to local codes or your material MSDS for guidance.
- Do not disconnect live electrical circuits when working with flammable materials. Shut off power at a disconnect switch first to prevent sparking.
- Know where emergency stop buttons, shutoff valves, and fire extinguishers are located. If a fire starts in a spray booth, immediately shut off the spray system and exhaust fans.
- Clean, maintain, test, and repair equipment according to the instructions in your equipment documentation.
- Use only replacement parts that are designed for use with original equipment. Contact your EFD representative for parts and information.

Halogenated Hydrocarbon Solvent Hazards

Do not use halogenated hydrocarbon solvents in a pressurized system that contains aluminum components. Under pressure, these solvents can react with aluminum and explode, causing injury, death, or property damage. Halogenated hydrocarbon solvents contain one or more of the following elements:

Element	Symbol	Prefix
Fluorine	F	"Fluoro-"
Chlorine	Cl	"Chloro-"
Bromine	Br	"Bromo-"
Iodine	I	"Iodo-"

Check your material MSDS or contact your material supplier for more information. If you must use halogenated hydrocarbon solvents, contact your EFD representative for information about compatible EFD components.

Action in the Event of a Malfunction

If a system or any equipment in a system malfunctions, shut off the system immediately and perform the following steps:

- Disconnect and lock out system electrical power. Close hydraulic and pneumatic shutoff valves and relieve pressures.
- Identify the reason for the malfunction and correct it before restarting the system.

Disposal

Dispose of equipment and materials used in operation and servicing according to local codes.

Specifications

MC785M (7008020) & MC785M-WF (7008013) Valves

Size: (with fittings) 66.29 mm (2.61") length; 49.28 mm (1.94") width

Weight: 206 gr (7.28 oz)

Lubricant chamber: Hard-coated aluminum

Return spring: Type 303 stainless steel

Needle and nozzle: Type 303 stainless steel

Air cap: Type 303 stainless steel

Diaphragm: Viton® with Teflon® coating

Lubricant inlet hole: 1/8 NPT

Mounting: 6 mm tapped hole

Operating frequency: Up to 60 per minute

Nozzle diameter: 1.17 mm (0.046")

U.S. Patent # D-398, 705

MC800 Controller (7008008)

Cabinet size: 14.6 W x 19.1 D x 27.6 H cm (5.75" x 7.50" x 10.88")

Net weight: 4.8 kg (10.62 lb)

Air input required: 4.14 bar (60 psi) minimum

Tank air pressure regulator: 2.07 bar (30 psi) maximum

Nozzle air regulator: 2.07 bar (30 psi) maximum

Cycle rate: Up to 60 per minute

Pressure switch rating: 20VA 240V

Note: Specifications and technical details are subject to engineering changes without prior notification.

MicroCoat Tank Reservoirs

Operating pressure: 2.07 bar (30 psi) maximum

Safety relief pressure: 2.76 bar (40 psi)

Low level switch rating: 20VA 240V

MC685M (7023843)

Capacity: 3.8 L (1 gallon)

Construction: Acrylic tank wall, Anodized aluminum end caps

Net weight: 4.1 kg (9.18 lb)

MC686M (7023846)

Capacity: 7.5 L (2 gallons)

Construction: Acrylic tank wall, Anodized aluminum end caps

Net weight: 5.2 kg (11.6 lb)

MC687M (7023849), MC687M-DFS (7023850)

Capacity: 19 L (5 gallons)

Construction: Type 304 stainless steel

MC687M-DFS: Includes two float **switches:** mid-level warning indicator, and low level indicator for press shutdown.
Net weight: 7.9 kg (17.54 lb)

4000FLT MC Filter Elements (7017347)

Internal Filter Element: Resin impregnated cellulose media

Micron Filter Size: 10 micron nominal

CE Compliant
Satisfies Machinery Directive 97/37/EC, Evaluated to EN292-2, Annex 1

How the System Operates

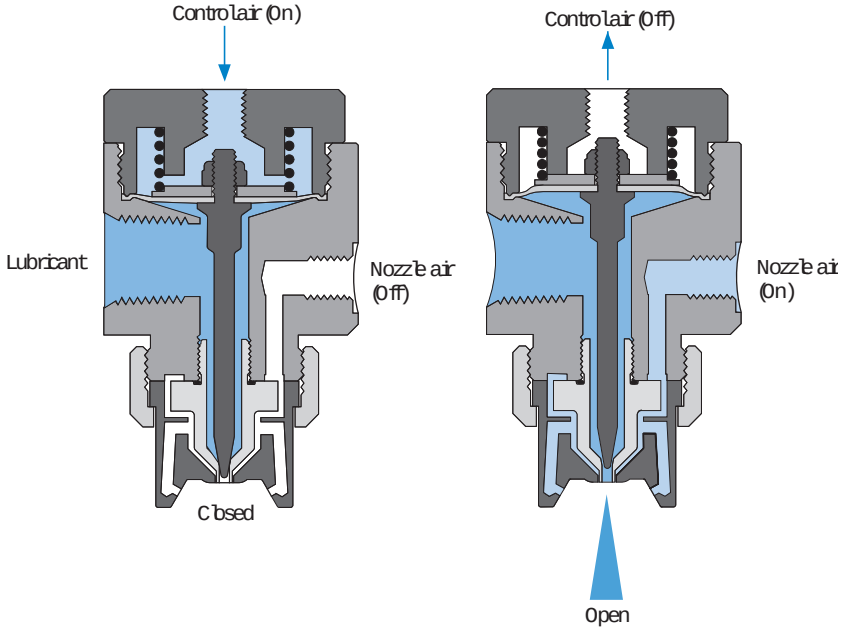
The MicroCoat System incorporates up to eight low volume low pressure (LVLP) spray valves; a lubricant reservoir; and a controller that regulates air pressure, meters lubricant flow and controls valve operation.

Constant air pressure applied to the tank reservoir forces lubricant through precision fluid flow]controls on the MC800 controller, then out to the spray valves.

When the press is stamping, a 3-way air solenoid activates the system and opens the valves. As the valve opens, LVLP air creates a pressure drop at the nozzle, causing the lubricant to spray a fine film onto the stock.

Lubricant flow can be adjusted independently for each valve via flow controls on the front of the MC800 controller.

Valve Operation



Controller Features

1. System Pressure Switch

Turns the system air supply On and Off.

2. Mode Switch

Use **Manual/Setup** position to prime and test the valves without running the press.

In the **Auto/Run** position, the system will spray lubricant when the press begins stamping.

Press air solenoid must be properly installed to allow the MicroCoat System to run in Auto/Run mode (refer to pages 14-16).

3. Tank Air Pressure

Regulates air pressure in the lubricant reservoir. For most lubricants, 1.03 bar (15 psi) is a good start.

Minimum setting is 0.83 bar (12 psi).

4. Nozzle Air

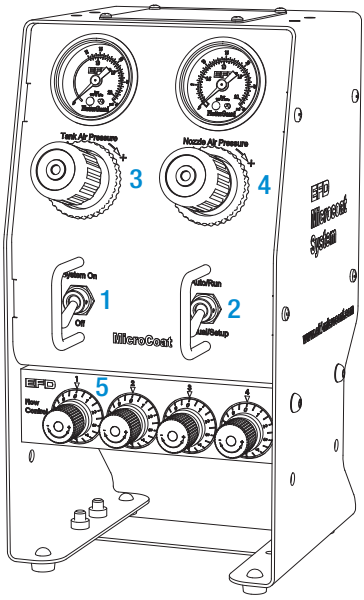
Regulates nozzle air pressure.

Average setting is 0.55 to 0.83 bar (8 to 12 psi). Higher pressure provides finer spray.

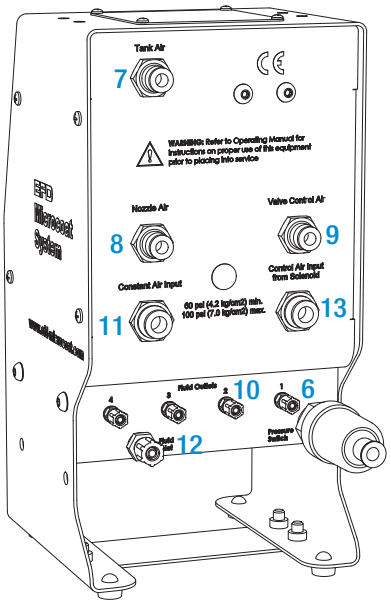
5. Flow Controls

Provide independent flow control of the lubricant to each spray valve. Each blue ring on the stem coming out of the middle of the knob indicates one complete revolution.

Turn counterclockwise to increase flow.



MC800 Front View



MC800 Rear View

6. Low Pressure Switch

Registers low fluid pressure. Connects with low level switch for press protection.

WARNING: Must be wired to the press Emergency Stop Circuit to prevent the press from operating without lubricant pressure (refer to page 18).

7. Tank Air

Air from this port pressurizes the lubricant reservoir.

8. Nozzle Air

Air from this port is used to spray the lubricant.

9. Valve Control Air

Air from this port controls the opening and closing of the spray valves.

10. Fluid Outlet

Pressurized lubricant flows from these ports to the spray valves.

11. Constant Air Input

The main air supply to the system should be a **minimum of 4.14 bar (60 psi).**

12. Fluid Inlet

Lubricant from the tank reservoir enters the manifold through this port.

13. Control Air Input from Solenoid

Activates the system when the press begins stamping. **Minimum 4.14 bar (60 psi) required.**

Tank Reservoir Features

1. Low Level Switch

Prevents the system from operating without lubricant when connected to the press Emergency Stop Circuit. Switch opens when tank level is near empty.

2. Air Pressure Relief Valve

Automatically exhausts air if tank reservoir pressure exceeds 2.76 bar (40 psi).

Also used to manually exhaust air pressure before refilling the tank.

3. Fill Port Cap

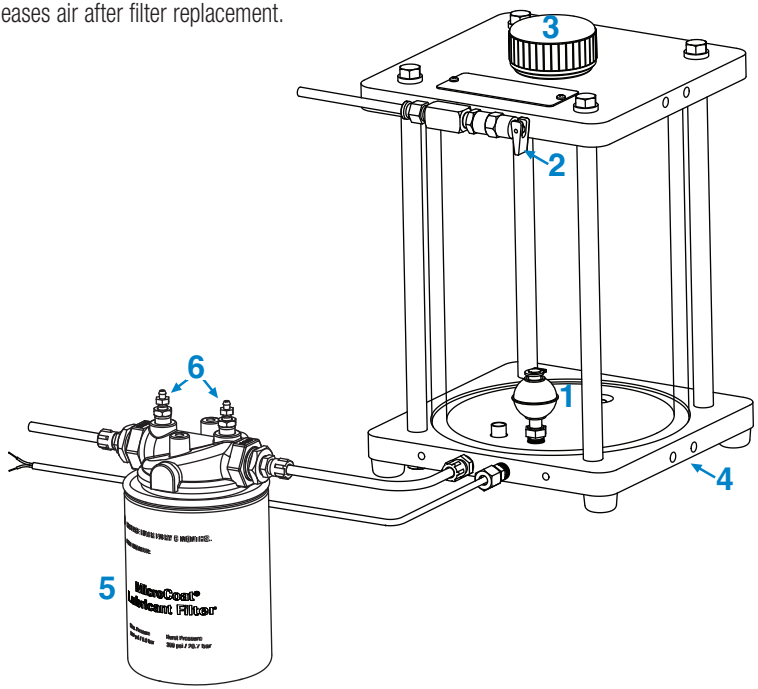
Ported threads relieve any residual reservoir air pressure when cap is loosened.

4. Drain Plug (not shown)

5. Lubricant Inline Filter

6. Bleed Valve

Valve releases air after filter replacement.



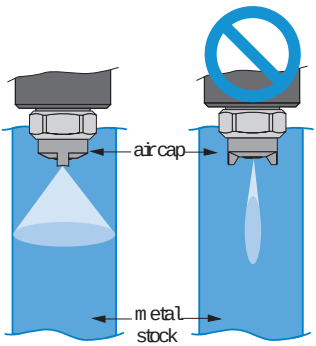
System Assembly

Step 1: Mount the Spray Valves

Mount each valve with the mounting clamp (7021742) provided, or use the 6 mm mounting hole in the valve body to attach the valve to an alternative mounting bracket.

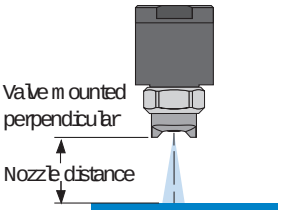
Note: Optional valve mounting fixtures provide easy installation of the valves without the need to drill or fabricate attachment hardware. See page 27 for further information.

To ensure proper lubrication coverage, mount the MC785M valve so the tabs on the air cap are in line with the stock as illustrated. Use the valve alignment tool (7023866) shown on page 27 for precise valve alignment.

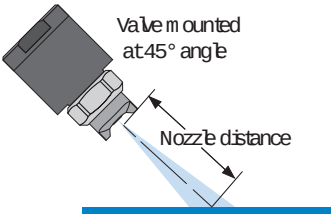


Proper air cap alignment

IMPORTANT: If you loosen the air cap retainer nut to reposition the tabs, be sure to retighten the nut with a wrench before operating the valve.



The width of spray coverage is determined by the distance between the valve nozzle and the stock, as shown in the chart below.



Spray Area Coverage

Nozzle distance to stock

Spray valves	25.4 mm 1.00"	50.8 mm 2.00"	76.2 mm 3.00"	101.6 mm 4.00"	127.0 mm 5.00"	152.4 mm 6.00"
MC785M	25.4 mm 1.00"	38.1 mm 1.50"	50.8 mm 2.00"	63.5 mm 2.50"	69.9 mm 2.75"	82.6 mm 3.25"
MC785M-WF	38.1 mm 1.50"	63.5 mm 2.50"	88.9 mm 3.50"	114.3 mm 4.50"	139.7 mm 5.50"	165.1 mm 6.50"

The MC785M-WF is recommended for spray widths from 2.0" to 6.0".

Note: Spray width coverage may vary depending on the viscosity and surface tension of the fluid.

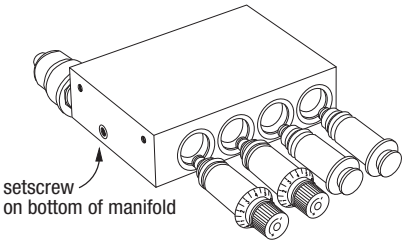
Step 2: Installation/Removal of Flow Control/ Block-off Plug from Manifold

Caution: Turn the system pressure off and confirm that tank pressure is at zero before performing maintenance on the system.

To remove a block-off plug or flow control, loosen the setscrew on the bottom of the fluid manifold block and pull the block-off or flow control out of the manifold.

Note: To loosen/release the block-off and/or the flow control from the manifold, it may help to rotate them clockwise while you pull. This will help free the 0-ring seal. The flow control needs to be fully closed before the body will turn within the manifold.

To install a new flow control, lubricate the 0-rings on the flow control with your stamping oil and push the flow control into the manifold while turning clockwise until the flow control slides into place. Continue turning until the zero on the knob is lined up with the zero reference on the flow control manifold. Tighten the manifold setscrew firmly.



Step 3: Set Up the Controller

1. Place the controller and tank reservoir away from traffic areas and position the tank to allow for convenient refilling.
2. Set the controller **System Pressure** to the **Off** position and the mode switch to the **Auto/Run** position.
3. Refer to the diagram on page 15 and connect a five micron filter regulator to the plant air supply. Using the black and white 8 mm hoses supplied with the controller, connect to the color-coded **Constant Air Input** (black, 8 mm) and **Control Air Input from Solenoid** (white, 8 mm) fittings at the back of the controller.

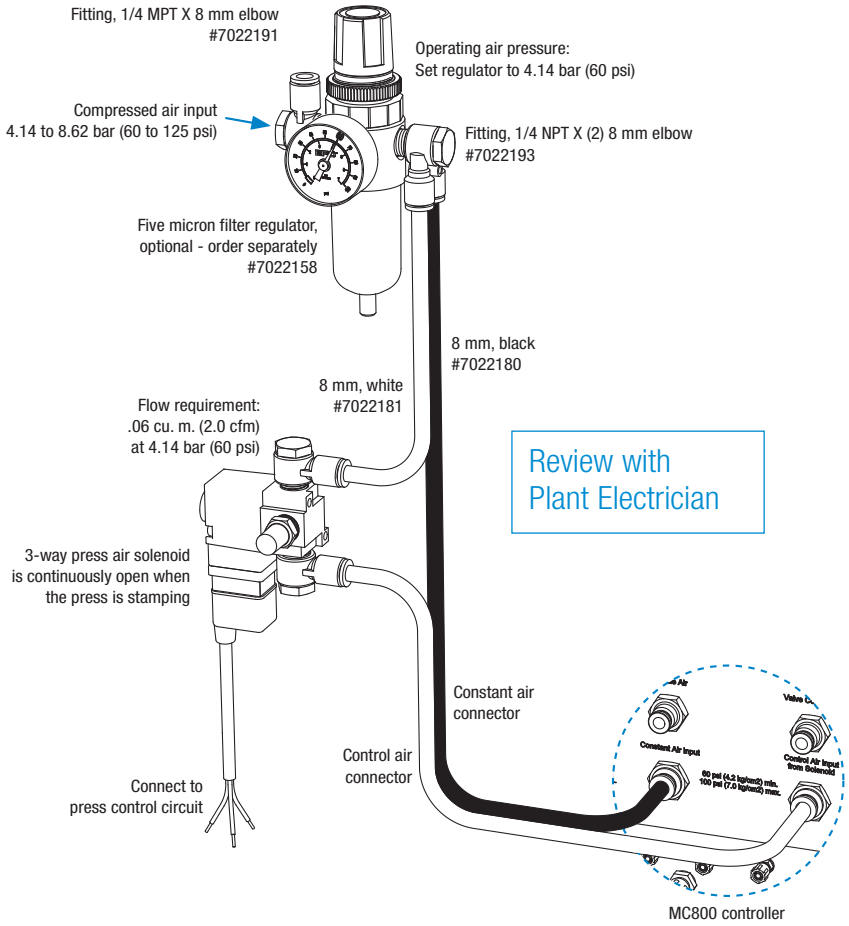
Step 4: Connect the Press Air Solenoid

Important: When the press is stamping, the solenoid must be open continuously to allow constant spray from the MicroCoat system. This can be accomplished by wiring the solenoid into the press clutch/run circuit.

To provide proper air distribution and control, a press air solenoid must be installed in-line with the white hose going to the **Control Air Input from Solenoid Fitting.**

Continued on page 16

Press Air Solenoid Diagram



EFD MicroCoat Solenoids

Part Number	Description
7008014	24 volt DC solenoid
7022162	24 volt AC solenoid
7022159	100 volt AC solenoid
7022160	120 volt AC solenoid
7022161	220 volt AC solenoid

EFD MicroCoat Solenoid Cord Sets

Part Number	Description
7016694	AC solenoid cord set
7008016	DC solenoid cord set

Step 4: Connect the Press Air Solenoid (cont'd.)

1. Select the appropriate 3-way solenoid. Flow must meet or exceed .06 cu. m./min. (2.0 cfm) at 4.14 bar (60 psi).
2. Cut the control air hose at a convenient location and install the solenoid as shown.
3. Connect the solenoid wires to the press control circuit.

Step 5: Connect the Valve Hoses

1. Find a suitable location and mount the two air manifolds. One manifold is for the white **Control Air** hose and the other is for the black **Nozzle Air** hose.
2. Connect a suitable length of black 6 mm tubing between the valve controller **Nozzle Air** outlet fitting and the air manifold inlet which has black push-in fittings.
3. Connect a suitable length of white 6 mm tubing between the valve controller **Control Air** outlet fitting and the air manifold inlet which has white push-in fittings.
4. Using the black and white 4 mm tubing, connect each color-coded valve fitting to the appropriate colored manifold fitting, cutting the tubing to the appropriate length as you proceed.
5. Using the clear 4 mm tubing, connect the appropriate length of tubing to the fluid manifold at the back of the controller using the compression nut provided and connect the opposite end to the appropriate spray valve inlet push-in fitting.
6. Using the spiral wrap supplied, group and wrap each valve tri-hose to provide a neat installation and prevent damage due to loose hoses.

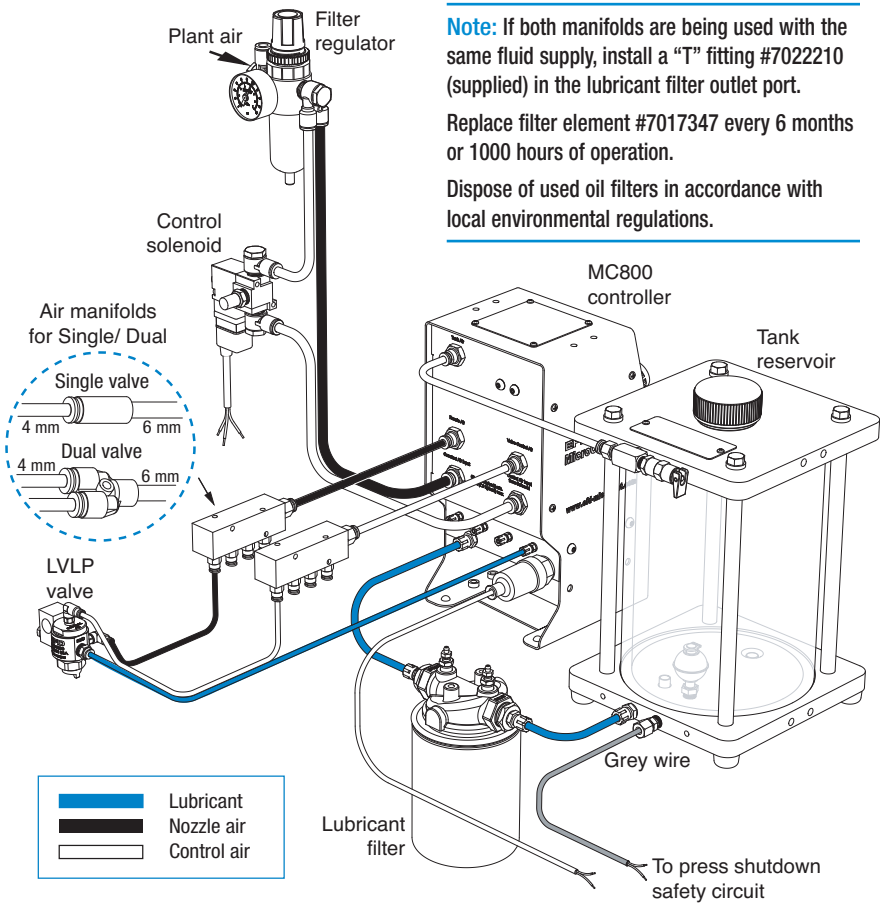
Step 6: Connect the Tank Reservoir and Lubricant Filter

The tank reservoir is supplied with a lubricant filter, fluid hose, air hose and low level switch cable.

Connect the tank to the controller as follows:

1. Connect the grey air hose to the **Tank Air** fitting on the back of the controller. Connect the opposite end of the hose to the **Tank Air Inlet** fitting on top of the tank.
2. Mount the filter adapter to the tank reservoir or MicroCoat stand using the hardware provided.
3. Connect the clear fluid hose to the **Fluid Inlet** connector on the manifold at the back of the controller. Then connect the opposite end of the fluid hose to the outlet fitting at the bottom of the tank reservoir.

4. Cut the clear fluid hose from the tank to the controller so the end of the hose coming from the tank can be installed into the "IN" port of the filter adapter.
5. Connect the fluid hose from the controller to the "OUT" port on the filter adapter.
6. Lubricate the filter gasket and screw the filter onto the adapter until the gasket makes contact and then tighten an additional 3/4 turn.
7. Refer to page 18 to wire the press Emergency Stop Circuit and to connect the low level switch cable to the controller.



Note: **If both manifolds are being used with the same fluid supply, install a "T" fitting #7022210 (supplied) in the lubricant filter outlet port.**

Replace filter element #7017347 every 6 months or 1000 hours of operation.

Dispose of used oil filters in accordance with local environmental regulations.

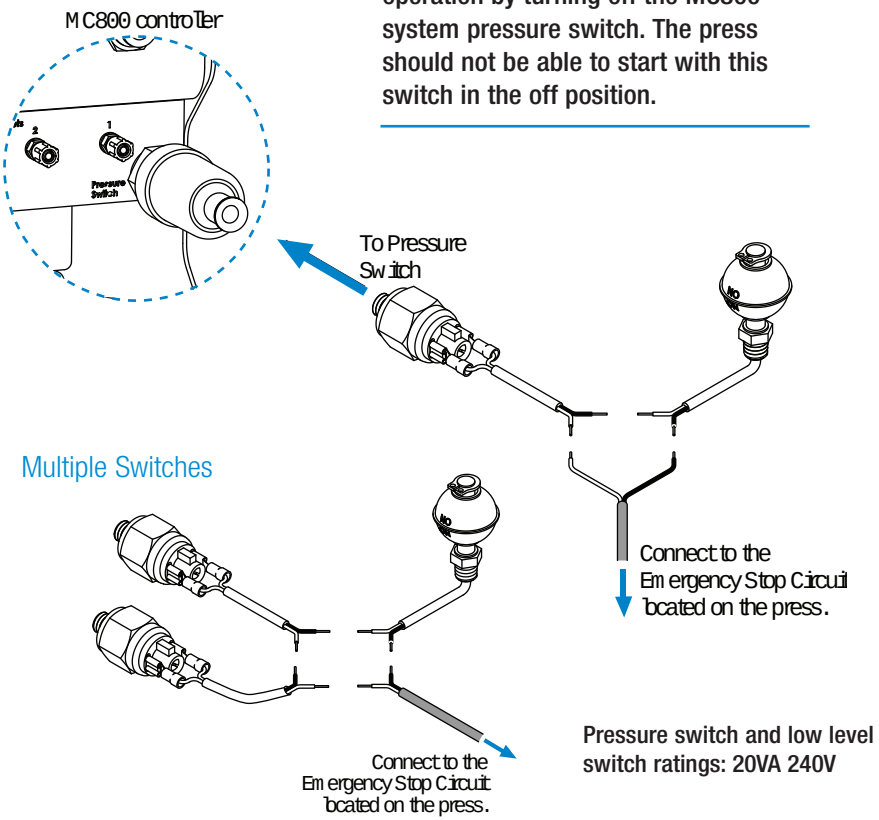
Step 7: Connect the Emergency Stop Circuit

The Emergency Stop Circuit on the press must be properly wired to the MicroCoat System to prevent the press from stamping without lubricant and to alert the operator if the lubricant pressure drops below 0.69 bar (10 psi).

Connect the red and black wire to the Emergency Stop Circuit located on the press.

Review with Plant Electrician

Warning: These switches must also be wired in series with the Emergency Stop Circuit from the press. Following integration of this circuit, the end user should review and test the fail-safe operation by turning off the MC800 system pressure switch. The press should not be able to start with this switch in the off position.



Pressure switch and low level switch ratings: 20VA 240V

System Setup

Check All Connections

1. Check that all connections are correct and secure.
2. Verify that the **System Pressure** switch is set to the **Off** position and the mode switch is set to the **Auto/Run** position.
3. Check that the input air supply is connected and set at 4.14 bar (60 psi).

Fill the Tank Reservoir

1. Unscrew the tank cap and fill the tank reservoir with lubricant to the level indicated on the tank label.

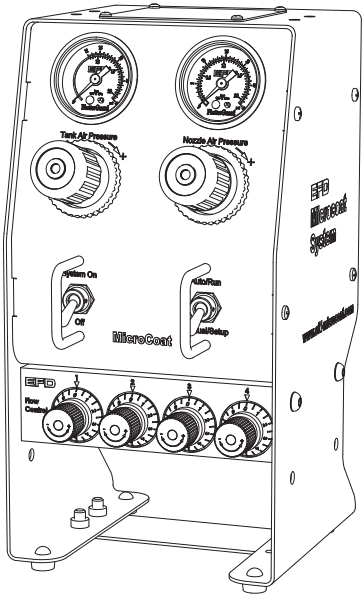
Caution: Do not overfill. Overfilling may cause lubricant to flow back into the regulator in the controller.

2. Reinstall the tank cap.

Prime the System

1. Set the **System Pressure** switch to **On**.
2. Adjust the **Tank Air Pressure** regulator to 1.03 bar (15 psi). Do not set pressure lower than 0.83 bar (12 psi).
3. Turn the **Nozzle Air** pressure regulator knob counterclockwise as far as it will go to prevent nozzle air from flowing while priming the valves.

   Note: Regulator knobs have a push to-lock, pull-to-unlock feature.
4. Turn all **Flow Control** knobs completely clockwise until closed.
5. Set the mode switch to **Manual/Setup**.



6. Open the valve on the filter adapter until all the air is removed.
7. Check for leaks around the filter and all connections between the tank and controller.
8. Select one valve and open the appropriate **Flow Control** knob about five full turns (counterclockwise) to fill the hose and prime the valve.
9. When the lubricant flows in a steady stream, the valve is primed. Close the **Flow Control** (turn clockwise).
10. Repeat steps 8 and 9 for each valve.

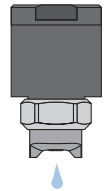
Continued on page 20

System Setup (cont'd.)

IMPORTANT: Each valve must be fully primed (lubricant flows in a steady stream) before adjusting the spray.

Adjust the Spray

1. As a starting point, select one valve and adjust the **Flow Control** knob so that lubricant flows from the valve at the rate of approximately one drop per second.
2. Note the number set on the graduated dial of the open **Flow Control**. Set the flow for each remaining valve to the same setting.
3. Turn the **Nozzle Air** regulator clockwise until pressure reads between 0.55 to 0.69 bar (8 to 10 psi) and the valve begins to spray. Thicker lubricants may require 0.83 to 1.03 bar (12 to 15 psi). Push the knob in to lock.
4. Set the mode switch to **Auto/Run**. The spray will shut off. The valves are ready to spray when the press is stamping.
5. After starting the press, adjust the **Flow Control** knobs as needed to provide proper lubricant coverage.



After priming the valve, adjust lubricant flow to a rate of approximately one drop per second

Preventive Maintenance

The MicroCoat System is designed for long life with minimal maintenance. To ensure trouble-free performance, follow these precautions and preventive maintenance steps:

1. Always use clean lubricant.
2. Check for residue at the bottom of the tank reservoir and clean if necessary.
3. Do not clean the MC685M or the MC686M tank with chlorinated solvents, aromatic hydrocarbons or any fluid that will attack acrylics. Use only soap and water, or mineral spirits to clean acrylic tank surfaces.
4. Operate the system with clean, dry, oil-free air. Drain the bowl on the five micron filter regulator whenever moisture or oil is present.
5. Replace lubricant filter (#7017347) every 6 months or 1000 hours of operation.

WARNING: Before performing any maintenance, set the System Pressure Switch to the Off position and depressurize the tank reservoir by lifting the lever on the tank pressure relief valve.

NOTE: Dispose of used oil filters in accordance with local environmental regulations.

Spray Valve Maintenance

WARNING: Before performing any maintenance, set the System Pressure Switch to the Off position and depressurize the tank reservoir by lifting the lever on the tank pressure relief valve.

When using filtered plant air and clean lubricants, the MC785M series spray valves are designed for long- term performance without scheduled maintenance.

If lubricant flow stops or becomes erratic, first review Troubleshooting on page 26. Cleaning the nozzle will solve most problems related to lubricant flow and spray patterns.

To Clean the Nozzle

Remove the air cap retainer nut, air cap and nozzle from the outlet end of the valve. Clean and reinstall.

Valve Disassembly

Note: Install a new diaphragm (#7021727) each time the valve is reassembled.

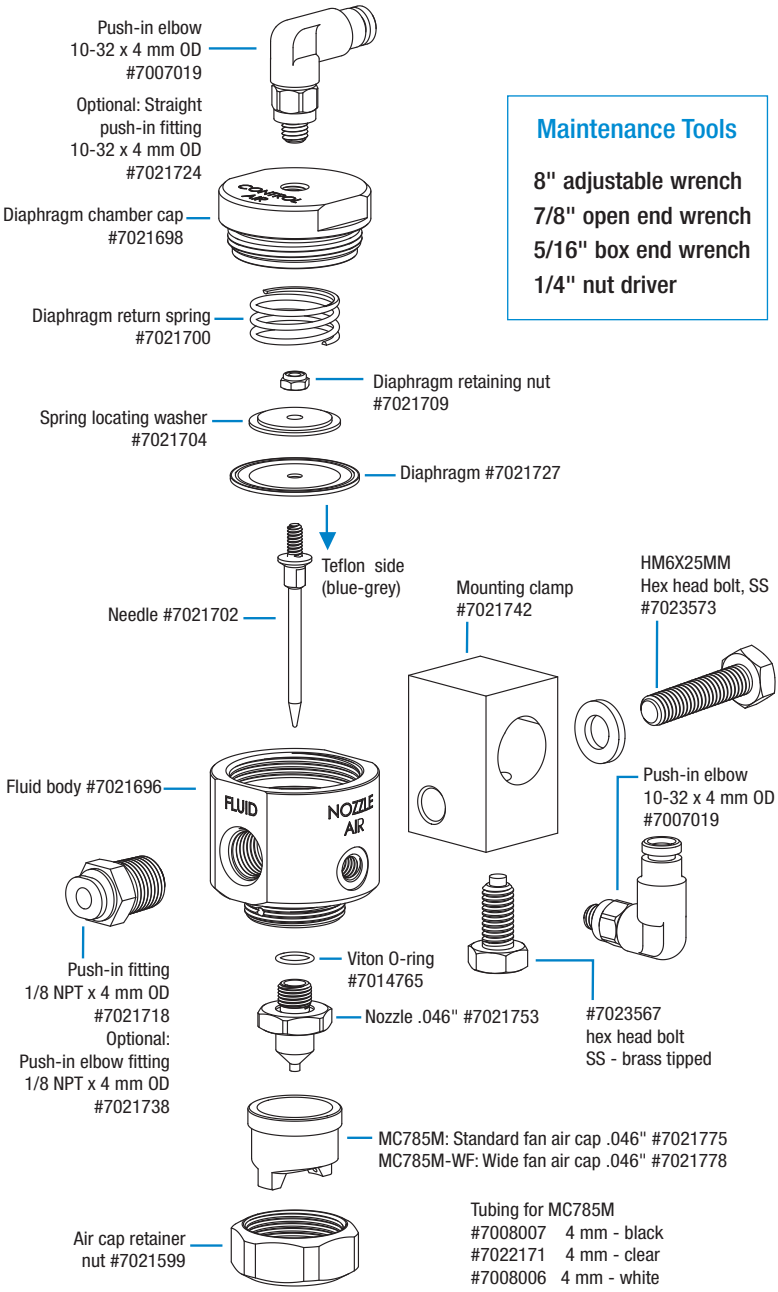
1. Remove air cap retainer nut, air cap and nozzle from the outlet end of valve.
2. Remove diaphragm chamber cap, diaphragm return spring and needle/diaphragm assembly from the valve body.
3. Remove diaphragm retaining nut and spring locating washer from the needle, then remove and discard old diaphragm.
4. Clean all parts in mineral spirits.

Valve Reassembly

1. Place the new diaphragm over the threaded end of the needle. The black Viton side of the diaphragm should face the threaded end. The blue-grey Teflon side should face the wetted side of the valve. Note illustration on page 23.
2. Place the spring locating washer over threaded end of the needle. The stepped side should face the threaded end.
3. Install a new diaphragm retaining nut (included with #7021727 diaphragm) and turn it until the nut starts to feel tight and the diaphragm cannot be rotated on the needle with fingers. Avoid crushing the diaphragm causing it to bulge away from the washer.
4. Install the needle/diaphragm assembly into the valve body, then install diaphragm return spring and diaphragm chamber cap, and tighten firmly.
5. Reinstall the nozzle, air cap and air cap retainer.

   The air cap retainer nut should be tightened with a wrench to prevent loosening due to press vibration.

MC785M Series Spray Valve Part Numbers

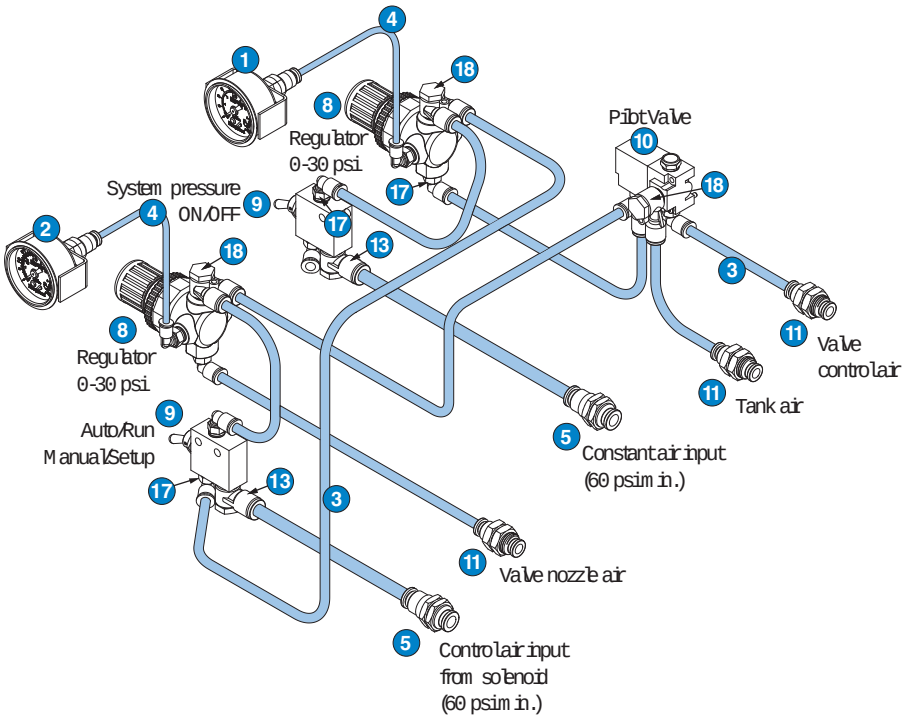


Maintenance Tools

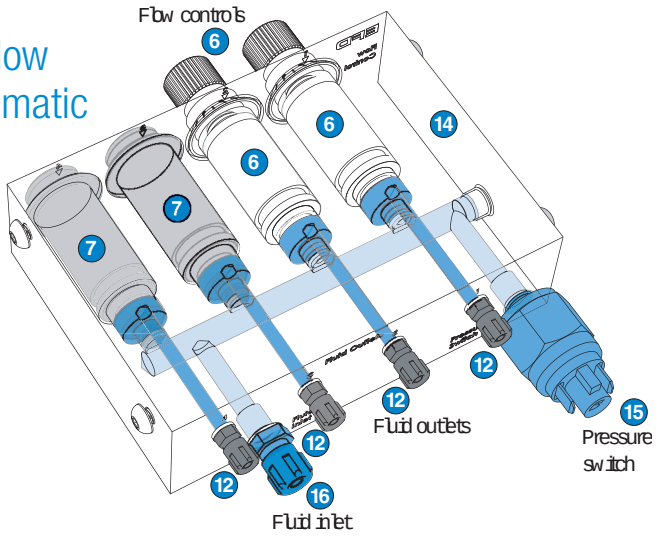
8" adjustable wrench
7/8" open end wrench
5/16" box end wrench
1/4" nut driver

Tubing for MC785M
#7008007 4 mm - black
#7022171 4 mm - clear
#7008006 4 mm - white

Controller Air Schematic



Oil Flow Schematic



Controller and Tank Replacement Part Numbers

Controller (Refer to schematic on page 24.)

1.	7016572	Tank air pressure gauge 0 to 30 psi (0 to 2.07 bar)
2.	7016574	Nozzle air pressure gauge 0 to 30 psi (0 to 2.07 bar)
3.	7002004	6 mm OD tubing
4.	7016767	5/32" OD x 3/32" ID tubing
5.	7022164	Air input fitting
6.	7008004	Flow control
7.	7008005	Flow control block-off plug
8.	7014882	Regulator, 0-30 psi
9.	7017402	Toggle switch
10.	7022243	Air pilot valve
11.	7022165	Air output fitting
12.	7022186	Fluid manifold outlet fitting
13.	7022166	Fitting 1/8 NPT x 8 mm elbow
14.	7008010 7008003	Fluid manifold w/ sensor Fluid manifold w/out sensor
15.	7022182	Low pressure switch fluid inlet
16.	7022188	Fluid inlet fitting
17.	7017400	Fitting 1/8 NPT x 6 mm elbow
18.	7017399	Fitting 1/8 NPT x (2) 6 mm elbow

MC685M and MC686M 3.8 and 7.5 Liter Tank Reservoir

7002004	Blue urethane hose
7020446	Viton O-ring for filler cap
7020425	(2) Neoprene gaskets for acrylic tube
7020427	(2) Viton gaskets for acrylic tube
7020432	Pressure relief valve 40 psi (2.76 bar)
7022195	Push-in fitting, tank inlet
7020422	Acrylic tube 6.50" D x 8.96" L (One gallon)
7020438	Acrylic tube 6.50" D x 16.35" L (Two gallon)
7022188	1/8" BSPP x 6 mm barb fitting, tank outlet
7022175	Black urethane hose
7020442	Filler cap
7020436	Nickel-plated brass drain plug
7020429	Stainless steel float switch kit (includes connector, wiring & strain reliefs)
7022156	Lubricant filter kit
7017347	Lubricant filter element, (4) per box

MC687M 19 Liter Tank Reservoir

7020036	Viton O-ring for tank cover
7022195	Push-in fitting, tank inlet
7013316	Float switch assembly
7020448	Double float switch assembly
7022175	Black urethane hose
7002004	Blue urethane hose
7022156	Lubricant filter kit
7017347	Lubricant filter element (4) per box
7022188	Fluid outlet fitting

Troubleshooting Guide

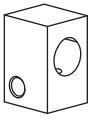
MC800 Controller	Possible cause and correction
Air pressure regulator will not maintain set pressure.	Contaminated air supply. Remove the controller cover to access the regulator. Remove the brass hex plug, spring and poppet from the regulator. Clean poppet and reinstall the poppet, spring and plug.
No lubricant flow to valve.	Tank pressure may be too low. **Minimum** operating tank air pressure is 12 psi (0.83 bar). Hose connector may not be pushed fully into the fluid outlet fitting on the rear panel of the controller. Ensure connector is firmly seated. Check fluid hose for kinks.
Valves do not turn on.	Supply pressure to controller must be at 4.1 bar (60 psi).
Lubricant flows but valve does not spray.	Air cap may be clogged. Be sure oil tank filter is clean. Remove air cap and clean the inside of the air cap and the outside of the nozzle. Refer to Spray Valve Maintenance on page 22. Nozzle air pressure regulator may be set too low. Increase pressure as needed. Normal working range is within 8 to 15 psi (0.55 to 1.03 bar).
Valve drips after shutdown.	Dripping can be caused by improper seating of the needle in the nozzle. Clean the needle and nozzle, and replace any worn or damaged parts. Ensure nozzle is tight to seat the needle properly.

If trouble cannot be corrected, or if you need further assistance, **please call us**.
In the US, call **800-556-3484**. In the UK, phone 0800 585733. In Asia, +86 (21) 3866 9006.

Accessories

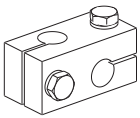
Valve Mounting Clamp

#7021742: Use to mount MC785M series valve or to secure mounting rod on press. Supplied with bolts. **Included with each #7008020 and #7008013 valve.**



Cross Clamp

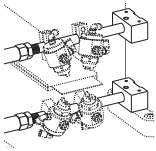
#7023862: Used to extend valves from expansion or gantry mount.



Expansion Mount

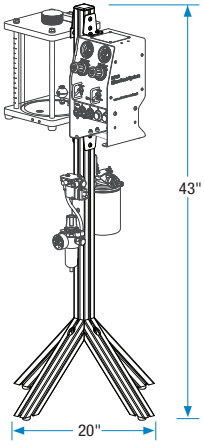
#7023864: Fits in the press window of four post stamping presses. Includes (2) sets of 1/2" diameter stainless steel rods and mounting hardware. Works with press windows up to 12".

#7023865: Works with press windows up to 24".



Stand

#7008017: Adjustable aluminum stand. Comes complete with all items necessary for stable mounting of reservoir and controller 43" H x 20" W.



Mounting Brackets

#7023855: For mounting controller to MC7300 stand or press enclosure. **Included with each MC800 controller.**

#7023858: For mounting MC685M tank to MC7300 stand or press enclosure. **Included with each MC685M #7023855 or MC686M #7023843 tank.**

Mounting Rod

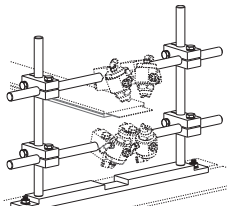
#7021060: Stainless steel rod 1/2" diameter x 10" long.

Extension Rod

#7021098: Use with cross clamp to extend valves beyond press window. Rod is 1/2" diameter x 4" long.

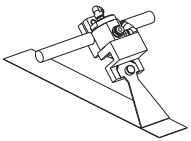
Gantry Mount

#7023867: For installing on bolster plate or other flat area. **Includes (4) 7023862 cross clamps, (2) 9.4" threaded vertical rods, (2) 15.75 horizontal rods and (1) 13.75" base plate.**



Valve Alignment Tool

#7023866: Use to position the valve to provide exact spray coverage. Includes (3) standard and (3) wide fan templates.



Nordson EFD Two Year Limited Warranty

All components of the Nordson EFD MicroCoat System are warranted for two years from date of purchase to be free from defects in material and workmanship (but not against damage caused by misuse, abrasion, corrosion, negligence, accident, faulty installation or by dispensing material incompatible with equipment) when the equipment is installed and operated in accordance with factory recommendations and instructions. Nordson EFD will repair or replace free of charge any part of the equipment thus found to be defective, on authorized return of the part prepaid to our factory during the warranty period. For the spray valve, the only exceptions are those parts which normally wear and must be replaced routinely such as, but not limited to, needles, diaphragms and nozzles.

In no event shall any liability or obligation of EFD arising from this warranty exceed the purchase price of the equipment. This warranty is valid only when oil-free, clean, dry, filtered air is used.

Nordson EFD makes no warranty of merchantability or fitness for a particular purpose. In no event shall EFD be liable for incidental or consequential damages.

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